

Curriculum Vitae

MICHAEL D. COLLINS

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Education:

Children's Hospital Research Foundation, Cincinnati, OH	Postdoctoral Fellowship in Teratology	1984-1987
Harvard University	Interdisciplinary Programs in Health Fellow, School of Public Health	1982-1984
University of Missouri-Columbia	Ph.D. in Civil Engineering	1982
University of Missouri-Columbia	M.S.P.H.	1981
University of Illinois-Urbana	M.S. in Environmental Engineering	1977
University of Illinois-Urbana	Law School (No degree)	1971-1972
University of Illinois-Urbana	B.S. in Aeronautical and Astronomical Engineering	1971

Academic Appointments:

Associate Scientist, California Institute of Technology (2008-present)
Professor, Department of Environmental Health Sciences, Interdepartmental Program in Molecular Toxicology, Jonsson Cancer Center and Interdepartmental Program in Environmental Science and Engineering, School of Public Health, University of California at Los Angeles (2002-present).
Faculty, Center for Occupational and Environmental Health, University of California at Los Angeles (1993-present)
Associate Director of Student Affairs, Interdepartmental Program in Molecular Toxicology, University of California at Los Angeles (2000-present).
Associate Professor, Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles (1995-2002).
Assistant Professor, Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles (1993-1995).
Faculty, Environmental Science and Engineering Interdepartmental Program, University of California at Los Angeles (1994-present)
Visiting Scientist, Institute for Toxicology and Embryonalpharmacology, Free University of Berlin, Berlin, Germany (1989-1990).
Research Assistant Professor of Pediatrics, Department of Pediatrics, College of Medicine, University of Cincinnati (1988-1993).
Research Instructor of Pediatrics, Department of Pediatrics, College of Medicine, University of Cincinnati (1986-1988).
Research Fellow, Children's Hospital Research Foundation, Cincinnati, Ohio in Teratology (1984-1987).

IPH Fellow, Harvard School of Public Health; laboratory associations with the Embryology-Teratology Unit of Massachusetts General Hospital, the Department of Nutrition and Food Sciences at the Massachusetts Institute of Technology and with the Department of Population Sciences, HSPH (1982-1984).

Research Associate, Department of Civil Engineering, University of Missouri-Columbia (1979-1982).

Research Associate, Cancer Research Center, Ellis Fischel State Cancer Hospital, Columbia, Missouri (1979-1982).

Research Assistant, Environmental Health Surveillance Center, Department of Family and Community Medicine, University of Missouri-Columbia (1979-1982).

Doctoral Students Mentored:

Hovland, Jr., David N. (1999); Scientist, Allergan, Irvine, California

Mao, Gloria E. (1999); Senior Scientist, Nutrilite, Los Angeles, CA

Machado, Antonio (Tony) F. (2002); Associate Professor, Department of Environmental and Occupational Health, California State University at Northridge, CA.

Lee, Grace Sangeun (2005); Pharmacology Toxicology Reviewer. United States Food and Drug Administration, Washington, D.C.

Martin, Lisa J. (2007); Postdoctoral fellow in the laboratory of Dr. Aldons J. Lusis, Department of Medicine, University of California at Los Angeles, Los Angeles, CA.

Elsaid, Ahmed (2007); Lecturer, Zagazig University, Egypt.

Liao, Xiaoyan (2007); Postdoctoral Fellow, University of California at San Diego, San Diego, CA

Postdoctoral Fellows Mentored:

Chen, Haiyan (2002-2005) Ph.D. Nanjing Medical University, Nanjing, China. Instructor, University of Alabama at Birmingham, AL.

Khaled Korieam (2007-2008) Assistant Professor, Medical Physiology Department, National Research Center, Giza, Egypt

Academic Awards:

James G. Wilson Publication Award, Teratology Society (2008)

Best paper in reproductive and developmental toxicology in *Toxicological Sciences*, Society of Toxicology (2008)

Visiting Professor, Nanjing Medical University, Nanjing, China (2004)

Delta Omega Society, Iota chapter (Public Health Honors Society)(2004)

Visiting Scientist, Institute for Toxicology and Embryopharmacology, Free University of Berlin, Berlin, Germany (1989-1990).

NIEHS Traineeship in Teratology through Children's Hospital Research Foundation, Cincinnati, Ohio (1984-1987)

IPH Fellowship Award through Harvard University (1982-1984)
Ninth Annual Area of Microbiology Student Research Award through the University of Missouri (1981)
EPA Traineeship through the University of Illinois (1974)

Professional Organizations:

Teratology Society
Southern California Chapter of the Society of Toxicology

Service Experience:

Invited lectures/presentations:

University of Missouri-Columbia, 4th Annual Summer Institute in Hazardous Waste Management, "Overview of testing methodologies for carcinogenesis, mutagenesis and teratogenesis," August, 1985.
University of Texas School of Public Health, San Antonio, TX, "Teratogenicity of carboxylic acids: Possible relationship to embryonic intracellular pH," 1986.
National Institute of Occupational Safety and Health, Cincinnati, OH, "Hypothesized role of embryonic intracellular pH in the teratogenic mechanism of action of selected compounds," 1987.
Retinoids and Teratogenesis: Molecular Mechanisms and Approaches, sponsored by Hoffmann-La Roche, Inc., Rye, NY, "Characterization of the teratogenic response to all-*trans* retinoic acid in SWV and C57BL/6 mice at specific gestational times," April 30-May 3, 1989.
European Teratology Society Meeting, Budapest, Hungary, "DMO distribution for determination of pH of embryonic and extraembryonic compartments," September 4-7, 1989.
Department of Toxicology, University of Uppsala, Uppsala, Sweden, "The hypothesized role of intracellular pH in developmental toxicology," and "The differential response of two mouse strains to the teratogenic effects of all-*trans* retinoic acid: Teratology, maternal versus embryonic factors and pharmacokinetics," August, 1990.
Institute for Toxicology and Embryonalpharmacology, Free University of Berlin, Berlin, Germany, "Phenotypic interaction of the *legless* mutation with all-*trans* retinoic acid administered during organogenesis," March, 1992.
Department of Environmental Health Sciences, Tulane University School of Public Health, New Orleans, LA, "Aspects of retinoid-induced normal and abnormal development," December, 1992.
Department of Food Science and Technology, University of Georgia, Athens, GA, "Aspects of retinoid-induced normal and abnormal development," December, 1992.
University of Minnesota School of Public Health, Minneapolis, MN, "Aspects of retinoid function in normal and abnormal development," July, 1993.
University of California at Los Angeles School of Public Health, Los Angeles, CA, "Developmental toxicology of retinoids," September 1993.

Department of Pediatrics, University of Cincinnati School of Medicine, Cincinnati, OH, "Diabetic embryopathy," March 1994.

Genetic and Environmental Toxicology Association, Fall Meeting, Oakland, CA, "Retinoid teratology," November 1994.

Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles, CA, "Perturbations of the retinoid pathway as a mechanism of teratogenesis," December 1994.

Allergan Pharmaceutical Corporation, Irvine, CA, "Aspects of retinoid teratology: morphogenesis, pharmacokinetics, and molecular pathways," January 1995.

Department of Community and Environmental Medicine, University of California at Irvine, CA, "Teratogenesis of retinoids," October 1995.

Department of Pathology (Grand Rounds), University of California at Los Angeles, CA, "Perturbations of developmental processes by retinoids," January 1996.

University of Southern California, Los Angeles, CA, "Aspects of retinoid teratology," October 1996.

UCLA-Sociedad Mexicana de Medicina del Trabajo: Collaborative Conference on Occupational Medicine, "Toxicology: Reproductive effects," September 1997.

Toxicology Program, University of California at Riverside, "Aspects of retinoid teratogenesis," May 1998.

Institute for Toxicology and Embryonalpharmacology, Free University of Berlin, Berlin, Germany, "Isolation of genetic loci associated with a murine strain difference in cadmium-induced forelimb ectrodactyly," September 2000.

Department of Obstetrics and Gynecology, Università "G. d'Annunzio, Chieti, Italy "A whole genome scanning approach to identify chromosomal loci responsible for a murine strain difference in cadmium-induced limb defects," September 2000.

Public forum in Glendale, California sponsored by Congressman Adam Schiff, NIEHS and NIH. "Aspects of chromium toxicity", January 2002.

Developmental Biology Program, Department of Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, Pennsylvania. "Probing a murine strain difference in limb teratogenesis", June 2002.

International Congress: Environmental Influences on Reproduction and Development. Università "G. d'Annunzio", Chieti, Italy. "Gene-environment interactions in teratogenesis: Combining various insults with a Pax3 mutation in the splotch mouse model", October 2002.

Environmental Toxicology Program, University of California at Irvine, "Analyses of a murine strain difference in chemically-induced teratogenesis", December 2002.

National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, "Utilizing a proteomics approach to delineate murine strain differences in teratogenesis" May 2004.

Department of Molecular, Cellular and Craniofacial Biology, School of Dentistry, University of Louisville, Kentucky, "Approaches for explaining murine strain differences in teratogenesis", December 2004.

Department of Environmental and Occupational Health, School of Public Health, University of Washington, Seattle, WA, "" May 2006

FASEB Retinoids Conference, Indian Wells, CA, “Differential mouse strain sensitivity to retinoid-induced limb teratogenesis” June 2006.
Teratology Society Annual Meeting Education Course, Tucson, AZ, “Skeletal development (including limb)” June 2006.
Teratology Society Annual Meeting, Wiley-Blackwell Symposium, Rio Grande, Puerto Rico, “Chemical perturbations of developmental gene regulatory networks: sea urchin model.” June 2009.
Current Trends in Developmental and Reproductive Toxicology, Kalamazoo, MI, “Utilization of gene regulatory networks in the sea urchin to detect mechanisms of mammalian teratogenesis” August 2011

Reviewer:

Reviewer of manuscripts for *Teratogenesis, Carcinogenesis and Mutagenesis, Molecular Toxicology, Teratology, Environmental Health Perspectives, Toxicology and Applied Pharmacology, Life Sciences, Drug Metabolism and Disposition, Neurotoxicology and Teratology, Journal of Cellular Biochemistry, Pharmacological Research, FASEB Journal, Pharmacogenomics, Toxicological Sciences, Diabetologia, Birth Defects Research, Reproductive Toxicology, Chemical Research in Toxicology, Fertility and Sterility, Physiological Genomics, Biochimica et Biophysica Acta Molecular Cell Research, Journal of Biological Chemistry, Expert Opinion on Drug Metabolism and Toxicology, British Journal of Nutrition*

Reviewer of grants for the British Columbia Health Research Foundation.

Reviewer of U.S. EPA Grants for Research Program entitled “Human Health Risk Assessment,” (1995).

Reviewer of U.S. EPA STAR Fellowships (1997).

Reviewer of graduate student research proposals for the Center for Environmental Risk Reduction (1997).

Reviewer of proposals for the NIEHS-funded Southern California Environmental Health Science Center directed by Dr. John Peters (2004).

Reviewer of proposals for the Israel Science Foundation (2004)

Reviewer of proposals for the Maryland Sea Grant Proposals (2004)

Reviewer of a textbook for Jones and Bartlett (2005)

Reviewer of the Reproductive and Developmental Toxicology Division/Laboratory of the United States Environmental Protection Agency, Research Triangle Park, NC (2006)

Reviewer on the Superfund Basic Research and Training Program Special Emphasis Panel, NIEHS, Research Triangle Park, North Carolina (2007)

Reviewer (ad hoc) Environmental Health Sciences Review Committee, NIEHS, Research Triangle Park, North Carolina (2007)

Reviewer (ad hoc) of the Developmental and Reproductive Toxicology of Cadmium for the National Toxicology Program, NIEHS, Research Triangle Park, North Carolina (2007)

Reviewer (ad hoc) for Developmental Biology Study Section of NIH, San Francisco, CA (2008)

Reviewer (ad hoc) for R13 Meeting Grants for NIH (2008)

Reviewer (ad hoc) for R15 Grants for NIH (2009)

Editorial Activities:

Section editor for the molecular development and genetics section of *Teratology* (2000-2002).

Patents:

US Patent No. 7,585,894: 4-[(E)-2-(5,6,7,8-TETRAHYDRO-5,5,8,8-TETRAMETHYL-2-NAPHTHALENYL)-1-PROPENYL]BENZOIC ACID ANALOGS AND METHOD OF MANUFACTURE AND USE THEREOF, Clagett-Dame et al., P05114US

Session Chairperson:

Chaired session entitled "Mechanisms of developmental toxicity" at the 31st Annual Meeting of the Teratology Society in Boca Raton, Florida in 1991.

Co-Chaired session entitled "Retinoids" at the 37th Annual Meeting of the Teratology Society in Palm Beach, Florida in 1997.

Co-Chaired and organized a March of Dimes-Sponsored Symposium entitled "Genetic susceptibility to teratogenesis" in Palm Beach, Florida in 2000.

Co-Chaired session entitled "Mechanisms of abnormal development" at the 42nd Annual Meeting of the Teratology Society in Scottsdale, Arizona in 2002.

Co-Chaired and organized Wiley-Liss Symposium entitled "Molecular clocks in embryonic development" at the 47th Annual Meeting of the Teratology Society in Pittsburgh, Pennsylvania in 2007.

Co-Chaired and organized March of Dimes-Sponsored Symposium entitled "Embryonic and fetal hypoxia" at the 48th Annual Meeting of the Teratology Society in Monterey, California in 2008.

Committee Work:

Department of Environmental Health Sciences Admissions Committee (1993-1995, 2000-2004, 2009-)

Department of Environmental Health Sciences MPH Examination Committee (1995-1997, 1999)

Department of Environmental Health Sciences Space Committee (1995-2000)

Department of Environmental Health Sciences Academic Policy and Procedures Committee (1997-2000).

Department of Environmental Health Sciences Recruitment and Alumni Committee (Chair, 1999- 2004; member, 2004-2008)

Department of Environmental Health Sciences Curriculum Committee (2009- 2012)

Secretary of the School of Public Health Faculty Executive Committee (1994).

School of Public Health Faculty Executive Committee, Department of Environmental Health Sciences representative (1998-2008).

School of Public Health Equipment and Laboratory Committee (1994-1998; Chair 1995-1996)

School of Public Health Student Affairs Committee (2009-2011)

School of Public Health Educational Policy and Curriculum Committee (2011-2012)

UCLA Committee to establish an Interdepartmental Program in Molecular Toxicology (1997-2000).

Teratology Society, Education Committee (1997-2000).

Teratology Society, Student Affairs Committee (2000-2001; 2002-2008; Chair in 2005).

Teratology Society, Ad hoc Committee on Bioinformatics in Teratology (2004-2009)

Teratology Society, Publications Committee (2005-present; Chair 2006-2007)

State of California: State Board 1764 Advisory Board (1995-1996).

School of Public Health Outreach Committee (1997-1999).

Teaching Experience:

Teratology, Nanjing Medical University, Nanjing, China: 2004

Introduction to Environmental Health Sciences (Masters of Public Health for Health Professionals), University of California at Los Angeles: 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011.

Microbiology module of Fundamentals of Environmental Health Sciences, UCLA: 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2008, 2010.

Techniques in murine whole embryo culture, National Polytechnic Institute, Mexico City, Mexico: 2000

Toxicology module of Fundamentals of Environmental Health Sciences, UCLA: 1998

Ecotoxicology, UCLA: 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2004, 2010.

Teratology, CINVESTAV, Mexico City, Mexico: 1997

Basic Embryology and Birth Defects, Medical School, UCLA: 1997, 1998, 1999

Embryology and Teratology, School of Public Health, UCLA: 1996, 1998, 2002

Toxicodynamics, University of California at Los Angeles: 1995, 1997, 2001, 2002, 2003, 2004, 2012.

Fundamentals of Toxicology, UCLA: 1994, 1995, 1996, 1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2011.

Fundamentals of Biology, University of Cincinnati: 1992, 1993

Lectured in Developmental Biology, University of Cincinnati: 1992

Lectured in Fundamentals of Environmental Toxicology, University of Cincinnati: 1991

Lectured in Teratology Course, University of Cincinnati: 1988, 1992, 1994

Health Aspects of the Environmental, Family and Community Medicine 415, Univ. of Missouri: 1982

Environmental Health Engineering, Civil Engineering 301/401, Univ. of Missouri: 1980, 1982

Consulting Experience:

State of California: Senate Bill 1764 Leaking Underground Fuel Tank Advisory Committee (1995-1996)

Member of the UCLA Independent Belmont Commission to the Los Angeles Unified School District (Principle investigator: Dr. Philip Harber) for the purpose of evaluating issues of toxicology and risk assessment for the Belmont Learning Complex (1999).

Peer Reviewer for the U.S. Environmental Protection Agency's Draft External Review Document "Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization" (2002).

Peer Reviewer for Office of Environmental Health Hazard Assessment of the State of California of Document "Draft Public Health Goal for Toxaphene in Drinking Water" (2003).

Peer Reviewer for the U.S. Environmental Protection Agency's Reproductive Toxicology Division, Research Triangle Park, North Carolina (2006)

Internal Evaluator, Teratology Society Strategic Planning Session, San Diego, CA (2007)

Grants:

NIH R23-ES04402, "Neural tube defects induced by anions via increased intracellular pH"

Principal Investigator: M.D. Collins

Percent effort: 95%

Total Direct Costs: \$342,275

Project Period: 7/1/87-6/30/93

Institutional Biomedical Research Support Grant (BRSG), "Maternal versus embryonic factors in the teratogenic response of inbred strains to all-trans retinoic acid"

Principal Investigator: M.D. Collins

Percent effort: 5%

Total Direct Costs: \$15,000

Project Period: 4/1/88-3/31/89

Mitre Corporation Project, "Antioxidant protection from hydroxyurea-induced embryotoxicity in whole embryo culture"

Principal Investigator: M.D. Collins

Percent effort: 5%

Total Direct Costs: \$8,000

Project Period: 7/1/91-6/30/92

Perinatal Research Institute, Program Project Grant IV on Diabetes in Pregnancy Mini-Grant Proposals, "Development of a murine model for diabetic embryopathy"

Principal Investigators: M.D. Collins and E.F. Zimmerman

Percent effort: 5%

Total Direct Costs: \$5,000

Project Period: 10/1/92-10/1/93

Institutional Biomedical Research Support Grant (BRSG), "Retinoid nuclear receptors during normal and abnormal murine neural tube closure"

Principal Investigator: M.D. Collins

Percent effort: 5%

Total Direct Costs: \$15,000

Project Period: 1/1/93-9/30/93

NIH T32 ES07051, "Training grant in teratology"

Principal Investigator: W.J. Scott, Jr.

Percent effort: 5%

Total Direct Costs: \$693,324

Project Period: 7/1/92-6/30/97 (however, Collins departed at the end of 1993)

UCLA Academic Senate, "Development of a murine model for diabetic embryopathy"

Principle Investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$3591.90

Project Period: 1/1/94-6/30/94

California EPA, "Non-carcinogenic toxicologic endpoints for seven chemicals: A literature review"

Principal Investigator: J. Froines

Percent effort: 10%

Total Direct Costs: \$78,137

Project Period: 4/30/94-10/30/94

California EPA, "Literature search for hot spot chemicals from the Office of Environmental Health Hazard Assessment (OEHHA), Air Toxicology and Epidemiology Section"

Principle Investigator: M. Collins

Percent effort: 10% for 9 months and 26% for 3 months

Total Direct Costs: \$136,487

Project Period: 11/1/94-9/30/95

Nestle Westreco, "Micronutrients and cancer prevention"

Principle Investigator: M. Swendseid

Percent effort: 5%

Total Direct Costs: \$14,000

Project Period: 3/1/94-2/28/95

UCLA Academic Senate, "An animal model for the induction of neural tube defects by folate deficiency"

Principle Investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$3850

Project Period: 7/1/95

UCLA Center for Environmental Risk Reduction, "Reducing arsenic-induced embryopathy: A mechanistic approach"

Principle investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$37,500
Project Period: 9/1/96-8/31/99

Juvenile Diabetes Foundation International, “Neural tube defects from diabetes in Pax-3 mouse mutant”

Principle investigator: M. Collins
Percent effort: 10%
Total Direct Costs: \$90,910
Project Period: 9/1/96-2/1/99

Fogarty International Center/NIH, “UCLA-Mexico collaborative training and research program”

Principle investigator: J. Froines
Percent effort: 0%
Total Direct Costs: \$566,800
Project Period: 9/30/95-9/29/00

Southern California Environmental Health Sciences Center/NIEHS, “Identification of genetic loci associated with murine strain differences in susceptibility to Cd-induced limb malformations”

Principle Investigator: M. Collins
Percent effort: 0 %
Total Direct Costs: \$15,052
Project Period: 10/1/96-3/31/97

Univ. of California Toxic Substances Research and Teaching Program (TSR&TP), “An Evaluation of the peer-reviewed research literature on human health, including asthma and environmental effects, of MTBE”

Principle Investigator: J. Froines
Percent effort: 8.3%
Total Direct Costs: \$114,000
Project Period: 1/1/98-10/31/98

U.S. Environmental Protection Agency, Science to Achieve Results (STAR) Fellowship, “The role of retinoic acid receptors RAR-beta and RAR-gamma during normal and abnormal neural tube closure”

Principle Investigator: G. Mao
Percent effort: 0%
Total Direct Costs: \$53,004
Project Period: 9/1/98-8/30/00

Southern California Environmental Health Science Center/NIEHS, “Fine mapping the murine *cdm* gene via a C57BL/6 and DBA/2 strain intercross”

Principle Investigator: M. Collins
Percent effort: 0%

Total Direct Costs: \$15,703
Project Period: 5/1/99-4/30/00

UCLA Academic Senate, "Fine mapping of a gene determining susceptibility to cadmium toxicity"

Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: \$3000
Project Period: 7/1/99-6/30/00

Univ. of California Toxic Substances Research & Teaching Program (TSR&TP), "Identification of chromosomal loci associated with murine strain differences in cadmium-induced congenital malformations"

Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: \$50,000
Project Period: 7/1/99-9/30/01

State of California, Office of Environmental Health Hazard Assessment (OEHHA), "Focused literature search for 13 chemicals to include: acrolein, chlorine, acetaldehyde, carbon tetrachloride, methanol, vinyl chloride, methyl chloroform, phosphine, 1,4-dichlorobenzene, methyl ethyl ketone, propylene oxide, n-hexane, and carbon disulfide"

Principle Investigator: M. Collins
Percent effort: 10%
Total Direct Costs: \$32,800
Project Period: 4/1/00-12/31/00

University of California Toxic Substances Research and Teaching Program (TSR&TP), "UCLA/UC Riverside/Los Alamos consortium in research and training in mechanisms of toxicity"

Principle Investigator: O. Hankinson
Percent effort: 0%
Total Direct Costs: \$882,000
Project Period: 7/1/00-6/30/08.

National Institute of Environmental Health Sciences (NIH), "Murine strain sensitivity to cadmium teratogenesis"

Principle Investigator: M. Collins
Percent effort: 30% effort for 9 months, 67% effort for 3 months
Total Direct Costs: \$1,000,000
Project Period: 4/1/01-3/30/07

Center for Inherited Disease Research (CIDR)/NIH, "Identification of genetic loci associated with differential sensitivity of two inbred murine strains to all-trans-retinoic acid-induced

congenital malformations”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: 0 (Genotyping provided by the agency)
Project Period: 4/1/02-2/1/03

University of California Toxic Substances Research & Teaching Program, “Interactions between cadmium and arsenite in the production of birth defects”
Principle Investigator: J. Fukuto
Percent effort: 0%
Total Direct Costs: \$150,000
Project Period: 7/01/02-6/30/04

National Institute of Environmental Health Sciences (NIH), “Cadmium teratogenesis in murine strains: Proteomics”
Principle Investigator: M. Collins
Percent effort: 10% for 9 months, 33% for 3 months
Total Direct Costs: \$275,000
Project Period: 9/1/02-8/31/04

Southern California Particle Center and Supersite (funded by the US EPA with John Froines as the PI) “Developmental toxicity of components of air contamination”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: \$29,263
Project period: 9/01/03-8/31/04

National Institute of Environmental Health Sciences (NIH), “2005 Teratology Society Meeting”
Principal Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: \$5000
Project period: June 2005

Jonsson Comprehensive Cancer Center Ann Fitzpatrick Alper Program (UCLA), “Epithelial to mesenchymal transition as a mechanistic component of cadmium-induced carcinogenesis”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: \$20,000
Project period: 04/01/05-3/31/06

National Institute of Environmental Health Sciences (NIH), "2006 Teratology Society Meeting"
Principal Investigator: M. Collins
Percent effort: 0%

Total Direct Costs: \$15,000

Project period: June 2006

UCLA Academic Senate, “Antagonism of all-trans-retinoic acid-induced teratogenesis by up-regulation of the Ha-ras oncogene in a murine model”

Principle Investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$6000

Project period: 7/01/05-6/30/07

UCLA Academic Senate, “Determining the mechanism by which sodium valproate induces radialization during early sea urchin (*S. purpuratus*) development”

Principle Investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$10,000

Project period: 7/01/09-6/30/10

Southern California Environmental Health Science Center (NIEHS), “Detecting perturbations of sea urchin development gene regulatory networks by chemicals to determine mechanisms of teratogenesis”

Principle Investigator: M. Collins

Percent effort: 0%

Total Direct Costs: \$34,800

Project period: 4/01/10-3/31/11

Peer Reviewed Articles:

- (1) Collins, M. Algal toxins. *Microbiological Reviews* 42:725-746, 1978.
- (2) Marienfeld, C.J., M. Collins, H. Wright, R. Reddy, G. Shoop, K. Roberts and P. Rust. Cancer mortality and public drinking water in St. Louis City and County. *J. Amer. Water Works Assoc.* 72:649-654, 1980.
- (3) Marienfeld, C.J., M. Collins, H. Wright, R. Reddy, G. Shoop and P. Rust. Cancer mortality and the method of chlorination of public drinking water: St. Louis City and St. Louis County, Missouri. *J. Environ. Pathol. Toxicol. Oncol.* 7:141-158, 1986.
- (4) Naruse, I., M.D. Collins, and W.J. Scott. Strain differences in the teratogenicity induced by sodium valproate in cultured mouse embryos. *Teratology* 38:87-96, 1988.
- (5) Collins, M.D., C.A. Duggan, C.M. Schreiner, and W.J. Scott. Decreasing pH of rat embryos and fluids estimated by transplacental distribution of DMO. *Am. J. Physiol.* 257:R542-R549, 1989.

- (6) Zimmerman, E.F. and M.D. Collins. Chloride transport in embryonic cells: Effect of ethanol and GABA. *Teratology* 40:593-601, 1989.
- (7) Collins, M.D., R. Fradkin, and W.J. Scott. Induction of postaxial forelimb ectrodactyly with anticonvulsant agents in A/J mice. *Teratology* 41:61-70, 1990.
- (8) Zimmerman, E.F., W.J. Scott, and M.D. Collins. Ethanol-induced limb defects in mice: effect of strain and Ro 15-4513. *Teratology* 41:453-462, 1990.
- (9) Scott, W.J., C.A. Duggan, C.M. Schreiner, and M.D. Collins. Reduction of embryonic intracellular pH: a potential mechanism of acetazolamide-induced limb malformations. *Toxicol. Appl. Pharmacol.* 103:238-254, 1990.
- (10) Srivastava, M., M. Collins, W.J. Scott, and H. Nau. Transplacental distribution of weak acids in mice: Accumulation in compartments of high pH. *Teratology* 43:325-329, 1991.
- (11) Eckhoff, Ch., M.D. Collins, and H. Nau. Human plasma all-*trans*, 13-*cis*, and 13-*cis*-4-oxoretinoic acid profiles during subchronic vitamin A supplementation: comparison to retinol and retinyl ester plasma levels. *J. Nutrition* 121:1016-1025, 1991.
- (12) Collins, M.D., Walling, K.M., Resnick, E. and Scott, W.J. The effect of administration time of malformations induced by three anticonvulsant agents in C57BL/6J mice with emphasis on forelimb ectrodactyly. *Teratology* 44:617-627, 1991.
- (13) Eckhoff, C., J.R. Bailey, M.D. Collins, W. Slikker, Jr., and H. Nau. Influence of dose and pharmaceutical preparation of vitamin A on retinol metabolism and systemic generation of retinoic acid compounds in the cynomolgus monkey. *Toxicol. Appl. Pharmacol.* 111:116-127, 1991.
- (14) Collins, M.D., W.J. Scott, S.J. Miller, D.A. Evans, and H. Nau. Murine teratology and pharmacokinetics of the enantiomers of sodium 2-ethylhexanoate. *Toxicol. Appl. Pharmacol.* 112:257-265, 1992.
- (15) Collins, M.D., Ch. Eckhoff, W. Slikker, J.R. Bailey and H. Nau. Quantitative plasma disposition of retinol and retinyl esters after high dose oral vitamin A administration in the cynomolgus monkey. *Fund. Appl. Toxicol.* 19:109-116, 1992.
- (16) Collins, M.D., Ch. Eckhoff, I. Chahoud, G. Bochert and H. Nau. 4-Methylpyrazole partially ameliorated the teratogenicity of retinol and reduced the metabolic formation of all-*trans*- retinoic acid in the mouse. *Arch. Toxicol.* 66:652-659, 1992.
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Chapters and Invited Papers:

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